July 11, 2005

Howard Bernstein Ph. D
RPS Program Manager
Massachusetts Division of Energy Resources
100 Cambridge Street
Suite 1020
Boston, MA 02114

Dear Howard,

In response to the Notice of Inquiry dated July 1, 2005, I am writing to you as a stakeholder on behalf of Ze-gen, Inc., a Massachusetts-based company.

By way of introduction, Ze-gen has developed proprietary gasification technology and processes and intends to generate renewable energy through the zero-emissions gasification of refuse derived fuel (RDF). Our facilities have been designed as standard products which convert 350 tons of RDF into 30 MW of net electrical output. We are hoping to build a demonstration facility in New Bedford, MA later this year, and then upon successful proof of concept, develop a full-size facility at a nearby location within the following 12-18 months. DEP is supportive of our technology and the Lakeville office has indicated that they will only require air and water modeling data in order to provide all necessary permits to proceed.

This said, our ability to move forward in Massachusetts is very much linked to RPS regulations so we are very much vested in the existing language, the proposed modifications, as well as the overall "spirit" of the RPS.

In general, we are very supportive of DOER/DEP efforts to clarify what is meant by "low emission" and "advanced biomass power conversion technologies". At the same time we strongly encourage DOER/DEP to give additional consideration to the issue of broadening the definition of Eligible Biomass Fuel which is discussed under the "Construction and Demolition" subsection of the "Issues" section of the NOI and in RPS 225 CMR 14.02, Eligible Biomass Fuel.

Here is the reasoning:

- According to DEP data, 13.2 million tons of solid waste (MSW, C&D) is created by businesses and consumers each year in Massachusetts. Much of this ends up in landfills, mostly in-state, with increasing amounts exported to other states. 63% of this waste is MSW. Most of the balance is C&D
- Once in the ground, this waste quickly converts into gas comprised of roughly 50% methane, and the balance mostly made up of $CO_2$. Methane gas is known to be 22 times more potent than $CO_2$ in terms of its greenhouse effect. The best landfills only capture 40% of methane emissions, and many capture none. As a result, methane gas coming off of landfills represents the single largest manmade source of methane emissions into the atmosphere
- The heating values of MSW and some other solid waste streams are generally higher than that of C&D, thus MSW in landfills represents a greater environmental risk than C&D. At the same time, MSW has better potential for conversion to clean energy

While the proposed revisions as outlined in "Summary of Proposed Revisions" Section, 1. Definitions (225 CMR 14.02) Eligible Biomass Fuel, provide support for the inclusion of C&D as an eligible feedstock, the NOI is silent on the issue of MSW and other waste streams. We understand that one of the reasons may be to avoid rewarding companies engaged in the combustion of MSW, especially given a moratorium on incineration in Massachusetts. This said, gasification is not the same as incineration. With respect to our gasification technology and perhaps that of others as well, waste is gasified in the absence of oxygen, thus no combustion takes place.

Furthermore, the current RPS contains guidelines (225 CMR 14.02, Eligible Biomass Fuel, and Eligible New Renewable Fuel) with respect to Eligible Biomass Fuels which appear to be at odds with one another and with the overall intent of the RPS. These are:

- The inclusion of the capture of methane gas from landfills but the exclusion of technologies which prevent the formation of methane. It would seem, especially given the low rates of landfill gas capture, that the avoidance of methane creation would be even more desirable than its creation and then partial capture
- The inclusion of "organic refuse-derived fuel that is collected and managed separately from municipal solid waste...", but the exclusion of MSW itself. In fact our process calls for the conversion of MSW into RDF prior to gasification. In order to create RDF we have to remove the inorganics, so the distinction as to the source of the RDF is confusing

In the Introduction Section of the NOI, you have indicated that part of the goal of the Inquiry is to provide those who may want to finance a new power plant project with sufficient certainty as to whether the plant will qualify as "renewable" thus reducing risks to those who may want to finance these projects. There's another dimension to the issue of financibility which you may want to consider in an effort to promote new biomass facilities. Specifically, according to the project finance investment community itself,

concerns over long-term access to feedstock is the single greatest risk in financing a biomass project.

In this regard, it is important to consider that C&D is, by definition, project oriented and difficult to contract on a long-term basis. In contrast, MSW is often linked (or at least linkable) to long-term contracts and thereby has increased odds of financibility. Given that MSW represents nearly two-thirds of the 13.2 million tons of (non agricultural) solid waste generated each year in Massachusetts, to not actively incentivize a better disposition for MSW is in effect the same as promoting the acceptability of landfilling.

We contend that it is in the best interest of DOER and DEP that new and safe alternatives to creating energy from all waste streams, which would otherwise end up creating greenhouse gas emissions, be explicitly supported in the Proposed Revisions to the RPS. We further suggest that all waste streams recycled as energy should be encouraged under the RPS as long as they meet the emissions standards set by DEP. In fact, this is even implied in the NOI Summary of Proposed Revisions, 2. Eligibility Criteria, sub-section (c), where it states, "...DEP and DOER are proposing to issue specific emissions standards that, if met, would qualify projects for RPS." To specify certain waste streams for inclusion and others for exclusion under the RPS is to create obstacles in developing and financing renewable energy generation which will only serve to undermine the intentions of the stated objectives in the proposed RPS changes.

In summary, the potential exists to create dramatic reductions in the creation of harmful greenhouse gases, especially methane, while at the same time producing significant amounts of distributed and clean energy. This represents an important "double bottom line" benefit for DEP *and* DOER in that the environment can actually be improved while at the same time improving the likelihood that renewable energy generation keeps pace with the accelerating compliance levels of the RPS. We believe that DOER/DEP have taken important steps in the right direction as outlined in the "Summary of Proposed Changes". At the same time we strongly encourage DOER/DEP to broaden the definition of eligible biomass fuels in order to clarify confusing elements of the RPS and best position The Commonwealth of Massachusetts to achieve its objectives of a cleaner, more diverse, and more sustainable electrical energy supply.

I would be pleased to speak to these points at the upcoming stakeholder conference on July 28th.

Respectfully,

Bill Davis
President & CEO
Ze-gen, Inc.